

What is claimed is:

1. An engine loader and transport assembly adapted to engage an aircraft engine assembly, comprising:

5 a motorized drive assembly engageable with a floor surface;

an engagement unit positioned proximate the drive assembly and partially surrounding a working space, the engagement unit including a pair of coupling assemblies positioned on opposing lateral sides of the working space that are adapted to be selectively coupleable to the aircraft engine assembly when the aircraft engine assembly is positioned at
10 least partially within the working space; and

a lifting assembly operatively coupled to the drive assembly and to the engagement unit and adapted to selectively raise and lower the engagement unit with respect to the floor surface.

15 2. The assembly of Claim 1, wherein the drive assembly includes an electric motor and at least one drive wheel operatively coupled to the electric motor.

3. The assembly of Claim 2, wherein the drive assembly further includes a programmable controller operatively coupled to at least one of the electric motor and the
20 drive wheel.

4. The assembly of Claim 1, wherein the engagement unit comprises a substantially U-shaped engagement assembly

25 5. The assembly of Claim 1, wherein at least one coupling assembly of the engagement unit includes a pair of elongated members, the elongated members being spaced apart along a respective one the opposing lateral sides of the working space and being adapted to be selectively extendable into and retractable from the working space.

6. The assembly of Claim 5, wherein the elongated members are substantially similar in size and shape to a pair of lifting forks of a forklift.

7. The assembly of Claim 1, wherein the coupling assemblies are adapted to be selectively coupled to and decoupled from an engine buck of the aircraft engine assembly.

8. The assembly of Claim 1, wherein at least one coupling assembly of the engagement unit includes a pair of engagement members spaced apart along a respective one of the opposing lateral sides of the working space, the engagement members being adapted to be selectively coupleable to at least one of a rail and a beam of an engine support of the aircraft engine assembly.

9. The assembly of Claim 1, wherein the lifting assembly includes a pair of scissor-lift devices operatively positioned on opposing lateral sides of the working space.

10. The assembly of Claim 1, wherein the engagement unit includes an upper deck positioned proximate the aircraft engine assembly and adapted to support at least one person.

11. The assembly of Claim 10 wherein the upper deck includes at least one panel slideably extendible toward the working space.

12. The assembly of Claim 1, wherein the engagement unit includes a pair of elongated track members positioned proximate the working space, and a platform assembly moveably mounted on the track members, the platform assembly being adapted to support at least one person.

13. The assembly of Claim 12, wherein the platform assembly includes a work surface and a lifting device coupled between the work surface and the track members, the work surface being controllably extendable toward the working space.

5 14. A facility for performing at least one of manufacturing and servicing an aircraft, comprising:

a floor surface; and

an engine handling assembly adapted to engage an aircraft engine assembly, the engine handling assembly including:

10 a motorized drive assembly engageable with the floor surface;

an engagement unit positioned proximate the drive assembly and partially surrounding a working space, the engagement unit including a pair of coupling assemblies positioned on opposing lateral sides of the working space that are selectively coupleable to the aircraft engine assembly when the aircraft engine assembly is positioned at least partially within the working space; and

15 a lifting assembly operatively coupled to the drive assembly and to the engagement unit and adapted to selectively raise and lower the engagement unit with respect to the floor surface.

20 15. The facility of Claim 14, wherein the engagement unit comprises a substantially U-shaped engagement assembly

16. The facility of Claim 14, wherein at least one coupling assembly of the engagement unit includes a pair of elongated members, the elongated members being spaced apart along a respective one the opposing lateral sides of the working space and being adapted to be selectively extendable into and retractable from the working space.

17. The facility of Claim 14, wherein the coupling assemblies are adapted to be selectively coupled to and decoupled from an engine buck of the aircraft engine assembly.

18. The facility of Claim 14, wherein at least one coupling assembly of the engagement unit includes a pair of engagement members spaced apart along a respective one of the opposing lateral sides of the working space, the engagement members being adapted to be selectively coupleable to at least one of a rail and a beam of an engine support of the aircraft engine assembly.

19. The facility of Claim 14, wherein the lifting assembly includes a pair of scissor-lift devices operatively positioned on opposing lateral sides of the working space.

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20. The facility of Claim 14, wherein the engagement unit includes an upper deck positioned proximate the aircraft engine assembly and adapted to support at least one person.

21. The facility of Claim 20, wherein the upper deck includes at least one panel slideably extendible toward the working space.

22. The facility of Claim 14, wherein the engagement unit includes a pair of elongated track members positioned proximate the working space, and a platform assembly moveably mounted on the track members, the platform assembly being adapted to support at least one person.

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23. The facility of Claim 22, wherein the platform assembly includes a work surface and a lifting device coupled between the work surface and the track members, the work surface being controllably extendable toward the working space.

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24. A method of attaching an aircraft engine, comprising:
positioning an airframe of the aircraft on a floor surface;
providing an aircraft engine assembly;

providing an engine handling assembly having a motorized drive assembly and an engagement unit operatively coupled to the motorized drive assembly, the drive assembly and the engagement unit being adapted to partially surround a working space, the engagement unit including a pair of coupling assemblies positioned on opposing lateral sides of the working space;

positioning the engine handling assembly proximate the aircraft engine assembly with the aircraft engine assembly at least partially positioned in the working space;

coupling the coupling assemblies of the engagement unit with the aircraft engine assembly;

raising the aircraft engine assembly by spacing apart the engagement unit from the drive assembly;

moving the aircraft engine assembly into position proximate the airframe using the drive assembly; and

coupling the aircraft engine assembly to the airframe.

25. The method of Claim 24, wherein coupling the coupling assemblies of the engagement unit with the aircraft engine assembly includes coupling the coupling assemblies with an engine buck of the aircraft engine assembly.

26. The method of Claim 24, wherein coupling the coupling assemblies of the engagement unit with the aircraft engine assembly includes extending a pair of elongated members into engagement with a pair of corresponding slots disposed within the aircraft engine assembly.

27. The method of Claim 24, wherein coupling the coupling assemblies of the engagement unit with the aircraft engine assembly includes engaging a pair of engagement members with at least one of a rail and a beam of an engine buck of the aircraft engine assembly.

28. The method of Claim 24, wherein raising the aircraft engine assembly by spacing apart the engagement unit from the drive assembly includes actuating a lifting assembly operatively coupled to the engagement unit and to the drive assembly.

5 29. The method of Claim 24, wherein actuating the lifting assembly includes actuating a pair of scissor-lift devices.

30. The method of Claim 24, further comprising, after coupling the aircraft engine assembly to the airframe, decoupling the engagement unit from the aircraft engine assembly.

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31. The method of Claim 24, further comprising, after coupling the aircraft engine assembly to the airframe, removing an engine buck from the aircraft engine assembly.

15 32. A method of servicing an engine assembly of an aircraft, comprising:
positioning the aircraft on a floor surface;
providing an engine handling assembly having a motorized drive assembly and an engagement unit operatively coupled to the motorized drive assembly, the drive assembly and the engagement unit being adapted to partially surround a working space, the engagement unit including a pair of coupling assemblies positioned on opposing lateral sides
20 of the working space;

positioning the engine handling assembly proximate the engine assembly;
raising the engagement unit of the engine handling assembly with respect to the drive assembly such that the engine assembly is at least partially positioned in the working space;
coupling the coupling assemblies of the engagement unit with the engine assembly;
25 detaching the engine assembly from the aircraft;
lowering the engine assembly by moving the engagement unit toward the drive assembly; and
performing service on the engine assembly.

33. The method of Claim 32, wherein coupling the coupling assemblies of the engagement unit with the aircraft engine assembly includes attaching an engine buck to the engine assembly and coupling the coupling assemblies to the engine buck.

5 34. The method of Claim 32, wherein coupling the coupling assemblies of the engagement unit with the engine assembly includes extending a pair of elongated members into engagement with a pair of corresponding slots disposed within the engine assembly.

10 35. The method of Claim 32, wherein coupling the coupling assemblies of the engagement unit with the engine assembly includes attaching an engine buck to the engine assembly and engaging a pair of engagement members with at least one of a rail and a beam of the engine buck.

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